

§ 429.48

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(c) *Alternative methods for determining efficiency or energy use* for distribution transformers can be found in § 429.70 of this subpart.

(d) *Kilovolt ampere (kVA) grouping.* As used in this section, a “kVA grouping” is a group of basic models which all have the same kVA rating, have the same insulation type (*i.e.*, low-voltage dry-type, medium-voltage dry-type or liquid-immersed), have the same number of phases (*i.e.*, single-phase or three-phase), and, for medium-voltage dry-types, have the same BIL group rating (*i.e.*, 20–45 kV BIL, 46–95 kV BIL or greater than or equal to 96 kV BIL).

§ 429.48 Illuminated exit signs.

(a) *Sampling plan for selection of units for testing.* (1) The requirements of § 429.11 are applicable to illuminated exit signs; and

(2) For each basic model of illuminated exit sign selected for testing, a sample of sufficient size shall be randomly selected and tested to ensure that—

(i) Any represented value of input power demand or other measure of energy consumption of a basic model for which consumers would favor lower values shall be greater than or equal to the higher of:

(A) The mean of the sample, where:

$$\bar{x} = \frac{1}{n} \sum_{i=1}^n x_i$$

and, \bar{x} is the sample mean; n is the number of samples; and x_i is the i^{th} sample;

Or,

(B) The upper 95 percent confidence limit (UCL) of the true mean divided by 1.10, where

$$UCL = \bar{x} + t_{0.95} \left(\frac{s}{\sqrt{n}} \right)$$

And \bar{x} is the sample mean; s is the sample standard deviation; n is the number of

samples; and $t_{0.95}$ is the t statistic for a 95% two-tailed confidence interval with n -

1 degrees of freedom (from Appendix A).

and

(ii) Any represented value of the energy efficiency or other measure of energy consumption of a basic model for

which consumers would favor higher values shall be less than or equal to the lower of:

(A) The mean of the sample, where:

$$\bar{x} = \frac{1}{n} \sum_{i=1}^n x_i$$

and, \bar{x} is the sample mean; n is the number of samples; and x_i is the i^{th} sample;

Or,

(B) The lower 95 percent confidence limit (LCL) of the true mean divided by 0.90, where

$$LCL = \bar{x} - t_{.95} \left(\frac{s}{\sqrt{n}} \right)$$

And \bar{x} is the sample mean; s is the sample standard deviation; n is the number of samples; and $t_{0.95}$ is the t statistic for a 95% two-tailed confidence interval with n-1 degrees of freedom (from Appendix A).

(b) *Certification reports.* (1) The requirements of § 429.12 are applicable to illuminated exit signs; and

(2) Pursuant to § 429.12(b)(13), a certification report shall include the following public product-specific information: The input power demand in watts (W) and the number of faces.

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§ 429.49 Traffic signal modules and pedestrian modules.

(a) *Sampling plan for selection of units for testing.* (1) The requirements of

§ 429.11 are applicable to traffic signal modules and pedestrian modules; and

(2) For each basic model of traffic signal module or pedestrian module selected for testing, a sample of sufficient size shall be randomly selected and tested to ensure that—

(i) Any represented value of estimated maximum and nominal wattage or other measure of energy consumption of a basic model for which consumers would favor lower values shall be greater than or equal to the higher of:

(A) The mean of the sample, where:

$$\bar{x} = \frac{1}{n} \sum_{i=1}^n x_i$$

and, \bar{x} is the sample mean; n is the number of samples; and x_i is the i^{th} sample;

Or,

(B) The upper 95 percent confidence limit (UCL) of the true mean divided by 1.10, where:

$$UCL = \bar{x} + t_{.95} \left(\frac{s}{\sqrt{n}} \right)$$

And \bar{x} is the sample mean; s is the sample standard deviation; n is the number of samples; and $t_{0.95}$ is the t statistic for a 95% two-tailed confidence interval with n-1 degrees of freedom (from Appendix A).

and

(ii) Any represented value of the energy efficiency or other measure of energy consumption of a basic model for

which consumers would favor higher values shall be less than or equal to the lower of:

(A) The mean of the sample, where: